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| 10/010,840 | 12/05/2001 | Eiji Kasutani | 15139 | 7737 |

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EXAMINER

HUNG, YUBIN

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2625

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/010,840 | KASUTANI, EIJI | |
| | Examiner | Art Unit | |
| | Yubin Hung | 2625 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-10, 13-17, 20, 25-30, 33, 37, 42 and 43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-10, 13-17, 20, 25-30, 33, 37, 42 and 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/18/04</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Translation filed 11/18/04</u> . |

Response to Amendments/Arguments

1. This action is in response to amendment filed on 4 February 2005
2. Claims 1-4, 11, 12, 18, 19, 21-24, 31, 32, 34-36 and 38-41 have been canceled; claims 5-10, 13-17, 20, 25-30, 33, 37, 42 and 43 are still pending.
3. In view of the applicant's argument, the 35 USC § 112 rejection has been withdrawn.
4. Applicant's arguments, see the last paragraph of page 25 through the third paragraph of page 27 of the amendment filed 02/04/2005, have been fully considered but they are not persuasive. See below.
5. **In remarks Applicant argued in substance**
 - 5.1 *that the method for obtaining an amount of frequency feature by reducing the size of an image followed by an orthogonal transformation (on the reduced image) in the claimed invention is not taught by either Nakagawa or Abe (see the last paragraph of page 25 through the 1st paragraph of page 26 and the last paragraph of page 26 through the 1st paragraph of page 27)*

However, Nakagawa does disclose image size reduction before applying orthogonal transformation to obtain frequency coefficients [Fig. 3, refs. 26a, 26b and 27a and per the analysis of claims 19 and 20] and Kusama further discloses using frequency distribution obtained from transformation of low-resolution images as features for image retrieval [Col. 11, line 52-col. 12, line 4; see also the analysis of claims 3 and 23]

- 5.2 *that the method for generating color distribution features from orthogonal transformation coefficient of the reduced whole image is not described by either Nakagawa or Abe (see the 2nd paragraph of page 27)*

However, in the original claim 5, which has been amended to include all limitations of original claims 1, 18 and 19 as well, this detailed method is carried out by inverse-transforming frequency features to obtain a decoded image, followed by color feature extraction (from the decoded image). Abe has clearly disclosed decoding via inverse-transformation [Fig. 1, ref. 4], as has Nakagawa [Fig. 3, ref. 29b]. Finally, Shiiyama teaches extracting color feature from an image [Fig. 4, refs. S13-S14; Fig. 10; Col. 5, lines 8-64; Col. 7, lines 23-33]. See also the analysis of the original claims 5, 25 and 37.

- 5.3 *that there is no description of the detailed method for converting into the amount of the frequency distribution features (from) the amount of color distribution*

features that consists of the color features for every block by Shiiyama, Takata or Case (see the 3rd paragraph of page 27)

However, in the original claim 13, which has been amended to include all limitations of original claims 1, 11, 18 and 19 as well, this detailed method is carried out by determining a representative color for each image block, generating an image using the representative colors, changing the size of the generated image, and finally extracting frequency distribution features. However, per the analysis of the original claims 29 (and similarly claim 18), Shiiyama and Takata in combination teaches determining a representative color (i.e., the average color) for each image block; per the analysis of original claims 13 and 33, Cass in Fig. 6 and lines 19-31 of column 15 teaches a method that changes image size by expanding each pixel by a factor of k (i.e., an 1×1 pixel with a representative color is expanded to a $k \times k$ block of the same color) and Kusama in line 52 of column 11 through line 4 of column 12 teaches using frequency distribution features for image retrieval.

6. Note that amended independent claims 5, 13, 25, 33, 37 and 43 are obtained by combining limitations of two or more originally filed claims. For example, amended claim 5 is the result of incorporating limitations of original claims 1, 18 and 19 into original claim 5. Further, no new limitations have been added to the amended dependent claims. Therefore the 35 USC § 103 rejections in the office action mailed 11/02/2004 are applicable to the amended claims. They are reproduced below.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Amended claims 37, 42 and 43 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Specifically, amended claim 37 recites "An image search program" in line 2. A program is a non-statutory subject matter. See MPEP 2106 (IV) (B)(1)(a). Claims 42 and 43 are similarly rejected. **[Examiner's note: This rejection can be overcome by using the phrase "A computer-readable medium storing an image search program for performing the steps of" or a phrase to a similar effect.]**

Claim Rejections - 35 USC § 103

(From office action mailed 11/02/2004)

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) a patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 14-16, 21, 22, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,584,223), in view of Matsuzaki et al. (US 6,804,683).

11. Regarding claim 21, and similarly claims 1 and 34 Shiiyama discloses an image search method with the following limitations

- The images' features are represented by either color distribution features or frequency distribution features
[Fig. 4: refs. S12-S14; Col. 5, lines 1-64. Note that the label sequence referred to in Col. 5, lines 63-64 is the color distribution feature of the image]
- Comparing the image features amount of said inquiry image with the image features amount of each said image to be searched based on said converted image features amount and determining a similarity of each image to search for a similar image
[Fig. 2, ref. 16; Col. 4, lines 47-51]

Shiiyama does not expressly disclose that

- Converting the kind of image features amount of the image in question to make kinds of image features amounts of each said image to be searched and said inquiry image coincident with each other

However, Matsuzaki teaches feature conversion [Col. 20, line 28-65. Note that here for each of a set of images its features are represented in different coordinate system (each constituting a different "kind" of features) and need to be converted into a common kind (e.g., the 3-D standard model coordinates) in order to carry out feature comparison. Note further that the conversion results in all images in question having the same kind of features.]

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Shiiyama and Matsuzaki are combinable because they have aspects that are from the same field of endeavor of image retrieval.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Shiiyama with the teachings of Matsuzaki by including the feature conversion capability. The motivation would have been to make the image search/retrieval method more flexible because it is well known in the art that many kinds of features are in use as a descriptor of images (see, for example, pp. 1-3 of the application) and similarity comparison has to be made on a common basis (so as not to, say, compare apples with oranges). Furthermore, converting from one kind of feature directly into another can be more efficient than to compute the feature from an input image.

Therefore, it would have been obvious to combine Matsuzaki with Shiiyama to obtain the invention as specified in claim 21.

12. Regarding claims 14 and 15, Matsuzaki further suggests

- (claim 14) each said image to be searched is set to be a target whose kind of said image features amount is to be converted, and the kind of image features amount of each said image to be searched is converted to be coincident the kind of image features amount of said inquiry image and
(claim 15) said inquiry image is set to be a target whose kind of said image features amount is to be converted, and the kind of image features amount of said inquiry image is converted to be coincident with the kind of image features amount of each said image to be searched

[Col. 20, lines 50-65. Note that as the features have to be of the same kind (e.g., features in the standard model coordinates) for a similarity calculation to be carried out, it is obvious that if for example the reference (i.e., inquiry) image has features in the standard model coordinates then each of the images in the database (i.e., images to be searched) should be set as a target and its features converted so as to be coincident with that of the reference image. The same is true if instead each image to be searched has features in the standard model coordinates.]

13. Regarding claim 16, Matsuzaki further discloses

- both the images, said inquiry image and said image to be searched, are set to be a target whose kind of said image features amount is to be converted, and the kinds of image features of the respective searched, are converted
[Col. 20, lines 50-65. Note that the kinds of features of all images in question are (selected as targets and) converted]

14. Regarding claim 22, and similarly claims 2 and 35, Shiiyama further discloses

- Referring to data of the image features amount of each said image to be searched, and receiving input of data of the image features amount of said inquiry image
[Fig. 9, refs. S21-S22 (feature amount of the inquiry image), S23 (feature amount of images to be searched)]

15. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,584,223) and Matsuzaki et al. (US 6,804,683) as applied to claims 1, 2, 14-16, 21, 22, 34 and 35 above, in view of Setlak (US 5,852,670).

16. Regarding claim 17, the combined invention of Shiiyama and Matsuzaki discloses all limitations of its parent, claim 16.

The combined invention of Shiiyama and Matsuzaki does not expressly disclose

- a circuit for converting a kind of image features amount of said inquiry image and a circuit for converting a kind of image features amount of each said image to be searched are provided independently

However, Setlak teaches using multiple processors to perform the same task, namely feature extraction. [Fig. 18, ref. 92; Col. 9, lines 43-46.]

Shiiyama, Matsuzaki and Setlak are combinable because they have aspects that are from the same field of endeavor of feature extraction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Shiiyama and Matsuzaki with the teachings of Setlak by using multiple processors to perform task of converting features. The motivation would have been to improve the processing speed, especially for applications for which a short response time is critical.

Therefore, it would have been obvious to combine Setlak with Shiiyama and Matsuzaki to obtain the invention as specified in claim 17.

17. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,584,223) and Matsuzaki et al. (US 6,804,683) as applied to claims 1, 2, 14-16, 21, 22, 34 and 35 above, in view of Nakagawa et al. (US 6,104,434).

18. Regarding claims 19 and 20, the combined invention of Shiiyama and Matsuzaki discloses all limitations of its parent, claim 1.

The combined invention of Shiiyama and Matsuzaki does not expressly disclose

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- (claims 19 & 20) said frequency distribution features is set to be an image features amount generated by converting an image as an object representing feature into a reduced image of a fixed size and subjecting said reduced image to frequency transformation
- (claim 20) and quantization

However, Nakagawa teaches generating frequency distribution features (i.e., DCT coefficients) by first down sampling, followed by DCT and then quantization. [See Fig. 3: refs. 26a, 27a, 27b.]

Shiiyama, Matsuzaki and Nakagawa are combinable because they have aspects that are from the same field of endeavor of feature extraction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Shiiyama and Matsuzaki with the teachings of Nakagawa to generate frequency distribution features (i.e., DCT coefficients) by first down-sampling, followed by DCT and then quantization.. The motivation would have been to reduce data size to facilitate efficient data storage and transmission..

Therefore, it would have been obvious to combine Nakagawa with Shiiyama and Matsuzaki to obtain the inventions as specified in claims 19 and 20.

19. Claims 3, 4, 11, 12, 23, 24, 31, 32, 36, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,584,223) and Matsuzaki et al. (US

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6,804,683) as applied to claims 1, 2, 14-16, 21, 22, 34 and 35 above, and further in view of Kusama et al. (US 6,633,685).

20. Regarding claim 23, and similarly claims 3 and 36, the combined invention of Shiiyama and Matsuzaki discloses

- A features conversion step of converting a (*certain set of*) features into color distribution features indicative of feature similar to image features represented by the (*certain set of*) features in question, wherein said feature conversion step renders all the kinds of image features amounts each image to be searched and the inquiry image into the color distribution features [Per the analysis of claim 21. Note that in claim 21 the kinds of features for the inquiry image and the images to be searched after conversion are the same (color distribution feature in this case).]
- A color distribution similarity calculation step of comparing the color distribution features of said inquiry image with the color distribution features of each said image to be searched and determining a similarity of each image to search for a similar image [Per the analysis of claim 21]

The combined invention of Shiiyama and Matsuzaki does not expressly disclose that the certain set of features is the frequency distribution. However, Kusama teaches using frequency distribution features. [Co. 11, lines 52-56; Col. 12, lines 1-4.]

Shiiyama, Matsuzaki and Kusama are combinable because they have aspects that are from the same field of endeavor of image retrieval.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined invention of Shiiyama and Matsuzaki with the teachings of Kusama by accepting frequency distribution features for image retrieval. The motivation would have been to make the image search/retrieval method more flexible as well as to improve its efficiency (as discussed in the analysis of claim 21).

Therefore, it would have been obvious to combine Kusama with Shiiyama and Matsuzaki to obtain the invention as specified in claim 23.

21. Regarding claim 24 (and similarly claim 4), it is similarly analyzed and rejected as per the analyses of claims 22 and 23.

22. Regarding claim 31 (and similarly claims 11 and 41), it is an obvious variation of claim 23 (with the frequency features and color features reversed) and therefore is similarly analyzed and rejected.

23. Regarding claim 32 (and similarly claims 12 and 42), it is similarly analyzed and rejected as per the analyses of claims 22 and 31.

24. Claims 5-8, 25-28, 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,584,223), Matsuzaki et al. (US 6,804,683) and Kusama et al. (US 6,633,685) as applied to claims 3, 4, 11, 12, 23, 24, 31, 32, 36, 41 and 42 above, and further in view of Abe et al. (US 6,157,741).

25. Regarding claim 25, and similarly claims 5 and 37, the combined invention of Shiiyama, Matsuzaki and Kusama discloses

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- a frequency distribution features conversion step of converting a frequency distribution features into a color distribution features indicative of feature similar to image features represented by the frequency distribution features in question
[Per the analysis of claim 23]
- a color distribution similarity calculation step of comparing the color distribution features of said inquiry image with the color distribution features of each said image to be searched and determining a similarity of each image to search for a similar image
[Per the analysis of claim 23]
- said frequency distribution features conversion step renders all the kinds of image features amounts each image to be searched and the inquiry image into the color distribution features
[Per the analysis of claim 23]
- a color distribution features extraction step of extracting each pixel value of (*said decoded*) image as a color constituent features to extract a color distribution features indicative of feature similar to image features represented by said applied frequency distribution features
[Shiiyama: Fig. 4: refs. S13-S14; Col. 5, lines 1-64. Note that the label sequence referred to in Col. 5, lines 63-64 is the color distribution feature of the image]

The combined invention of Shiiyama, Matsuzaki and Kusama does not expressly disclose

- said frequency distribution features conversion step including an inverse-frequency transformation step of decoding an applied frequency distribution features to generate a decoded image

However, Abe discloses a method that applies an inverse-frequency transformation (IDCT in this case) to frequency distribution features (quantized, various-length encoded DCT coefficients), another kind of features is then extracted from the decoded image.
[See Fig. 1, refs. 4 and 5; Fig. 2, refs. 11 and 12; Col. 3, lines 39-42.]

The combined invention of Shiiyama, Matsuzaki and Kusama is combinable with Abe because they have aspects that are from the same field of feature extraction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined invention of Shiiyama, Matsuzaki and Kusama with the

teachings of Abe by inversely DCT transforming frequency distribution features before feature extraction (e.g., extracting the kind of color distribution features of Shiiyama).

The motivation would have been because the kind of feature extraction such as Shiiyama's are performed on un-encoded images.

Therefore, it would have been obvious to combine Abe with Shiiyama, Matsuzaki and Kusama to obtain the invention as specified in claim 25.

26. Regarding claim 26 (and similarly claim 6), it is similarly analyzed and rejected as per the analyses of claims 22 and 25.

27. Regarding claim 27 (and similarly claims 7 and 38), it is similarly analyzed and rejected as per the analyses of claim 25. [In particular, note that Shiiyama teaches dividing an image into a plurality of (e.g., 9) blocks and then extracts color features of each block to form color distribution features of the image. (See Fig. 4, refs. S12-S14.)]

28. Regarding claim 28 (and similarly claim 8), it is similarly analyzed and rejected as per the analyses of claims 22 and 27.

29. Claims 9, 10, 18, 29, 30, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,584,223), Matsuzaki et al. (US 6,804,683), Kusama

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et al. (US 6,633,685) and Abe et al. (US 6,157,741) as applied to claims 5-8, 25-28, 37-38 above, and further in view of Takata et al. (US 6,526,400).

30. Regarding claim 29 (and similarly claims 9, 10, 18, 30, 39 and 40), the combined invention of Shiiyama, Matsuzaki, Kusama and Abe discloses all limitations of its parent, claim 28. In particular, Shiiyama discloses representing each image block with a color label and use the color labels to form a label sequence (i.e., color distribution features). [See Col. 5, lines 50-64.]

The combined invention of Shiiyama, Matsuzaki, Kusama and Abe does not expressly disclose that the representative color label is actually a color.

However, Takata discloses a method that uses the average color of a block as its representative color. [See Fig. 15; Fig. 22, ref. S83; Col. 17, lines 18-25.]

Shiiyama, Matsuzaki, Kusama and Abe are combinable with Takata because they have aspects that are from the same field of feature extraction.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined invention of Shiiyama, Matsuzaki, Kusama and Abe with the teachings of Takata by using the average color of a block as its representative color.

The motivation would have been because the mean is a good and widely used representative of a population (e.g., colors in a block) and can be efficiently calculated.

Therefore, it would have been obvious to combine Abe with Shiiyama, Matsuzaki and Kusama to obtain the invention as specified in claim 29.

31. Claims 13, 33 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiiyama (US 6,584,223), Matsuzaki et al. (US 6,804,683), Kusama et al. (US 6,633,685), Abe et al. (US 6,157,741) and Takata et al. (US 6,526,400) as applied to claims 9, 10, 18, 29, 30, 39 and 40 above, and further in view of Cass et al. (US 6,141,441).

Regarding claim 33 (and similarly claims 13 and 43), the combined invention of Shiiyama, Matsuzaki, Kusama, Abe and Takata discloses all limitations of its parent, claim 31. In addition, Shiiyama and Takata teach/suggest representing each image block with a color (per the analysis of claim 29) and Kusama teaches using frequency distribution features [Co. 11, lines 52-56; Col. 12, lines 1-4].

The combined invention of Shiiyama, Matsuzaki, Kusama, Abe and Takata does not expressly disclose

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- an image generation step of generating an image which uses the representative color of each said block as a pixel, an image size change step of changing the size of the image generated by said image generation step to a predetermined size

However, Cass teaches a method that changes image size. [See Fig. 6; Col. 15, lines 19-31. Note that the set of representative color values, each representing a block (of an image that has been divided into $m \times n$ number of blocks), is considered as forming an $m \times n$ image whose pixel values are the representative color values.]

Shiiyama, Matsuzaki, Kusama, Abe and Takata are combinable with Cass because they have aspects that are from the same field of image processing.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined invention of Shiiyama, Matsuzaki, Kusama, Abe and Takata with the teachings of Cass by changing image size. The motivation would have been to ensure that similarity comparison of image features is made on the same basis, i.e., using features extracted from images of the same dimensions.

Therefore, it would have been obvious to combine Cass with Shiiyama, Matsuzaki, Kusama, Abe and Takata to obtain the invention as specified in claim 33.

Conclusion and Contact Information

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32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Barber et al. (US 5,579,471) – Discloses an image query method that uses the set of average colors of image blocks as the image characteristic [column 16, lines 6-48]

33. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

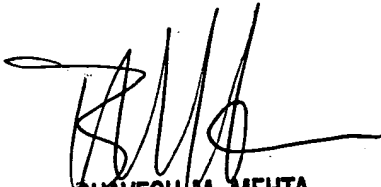
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (571) 272-7451. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung
Patent Examiner
May 5, 2005



BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600



Docket No. 15139

UNITED STATES PATENT AND TRADEMARK OFFICE
VERIFICATION OF A TRANSLATION

I, the below named translator, hereby declare that:

My name and post office address are as stated below;

That I am knowledgeable in the English language and in the Japanese language, and that I believe the English translation of the marked portion of the attached Japanese document is true and complete.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: October 22, 2004

Full name of the translator: Nigel David CROSSAN

Signature of translator :

For and on behalf of RWS Group Ltd

Post Office Address :

Europa House, Marsham Way,
Gerrards Cross, Buckinghamshire,
England.

*The attached
translation
is considered.*

5/6/05

Notes (See list of cited documents etc.)

[Claims 1 - 34] Cited documents 1 - 4

Cited document 1 (paragraph 5) discloses that, when previously orthogonally expanded images are compared in a pattern recognition device, they are temporarily restored to their original state, processed with a main component analysis method or the like used in a pattern recognition device and compared.

Furthermore cited document 2 (paragraph 38) discloses that, when the accumulated images are HSV data, using RGB color data as the example image, it is necessary to convert the example image to HSV data, and then to perform a search.

Accordingly cited documents 1 and 2 disclose that when the image feature values of the image which is the subject of the search and the image feature values of the enquiry image are different the types of image feature values are converted and made the same.

In cited document 3, color distribution feature values and frequency distribution feature values are described as image feature values (paragraphs 42 - 44) and because color distribution feature values and frequency distribution feature values are relevant to DCT and inverse-DCT conversion (cited document 4, p. 32, column 1 and p. 33, column 3), converting the feature values from the color distribution feature values to the frequency distribution values, and vice versa, by converting the types of image feature values is a simple matter for a person skilled in the art.

List of Cited Documents etc.

1. Japanese Laid-Open Patent Application H9-330407
2. Japanese Laid-Open Patent Application H7-73195
3. Japanese Laid-Open Patent Application 2000-259832
4. Yamada, Kasuya, *Wadai no Seihin to Gijutsu*
[Japanese periodical], "Ultra high-speed picture search
method from an image", *Gazo Labo*, Japan, June 1st, 2000,
Vol. 11, No.6, p. 31-35

拒絶理由通知書

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| 特許出願の番号 | 特願2000-378023 | |
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| 特許庁審査官 | 高瀬 勤 | 9069 5M00 |
| 特許出願人代理人 | 松本 正夫 様 | |
| 適用条文 | 第29条第2項 | |

この出願は、次の理由によって拒絶をすべきものである。これについて意見があれば、この通知書の発送の日から60日以内に意見書を提出して下さい。

理 由

この出願の下記の請求項に係る発明は、その出願前日本国内又は外国において頒布された下記 of 刊行物に記載された発明に基いて、その出願前にその発明の属する技術の分野における通常の知識を有する者が容易に発明をすることができたものであるから、特許法第29条第2項の規定により特許を受けることができない。

記 (引用文献等については引用文献等一覧参照)

【請求項1-34】引用文献1-4

引用文献1(第5段落)には、既に直交展開している画像をパターン認識装置で比較する場合に、一旦もとの画像に復元してパターン認識装置で用いる主成分分析法等で処理して比較することが記載されている。

また、引用文献2(第38段落)には、例示画としてRGB色データを用い、蓄積画像がHSVデータである場合に、例示画をHSVデータに変換して検索する必要があることが記載されている。

したがって、引用文献1, 2には、検索対象画像の画像特徴量と問い合わせ画像の画像特徴量が異なる場合に画像特徴量の種類を変換して同一にすることが記載されている。

引用文献3には、画像特徴量として色分布特徴量、周波数分布特徴量が記載され(第42-44段落)、色分布特徴量と周波数分布特徴量は、DCT、逆DCT変換の関係にある(引用文献4, p. 32第1欄、p. 33第3欄)から、引用文献1, 2に記載されているように画像特徴量の種類を変換して、色分布特徴量、周波数分布特徴量間で特徴量を変換することは当業者にとって容易である。

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2/E

1.特開平9-330407号公報

2.特開平7-73195号公報

3.特開2000-259832号公報

4.山田, 粕谷, 話題の製品と技術 イメージからの超高速映像検索方式, 画像ラボ, 日本, 2000年 6月 1日, Vol.11, No.6, p.31-35